

DETAILED COMMENTS ON USEPA'S SUPPLEMENTAL NOTICE OF PROPOSED RULEMAKING

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

The Indiana Department of Environmental Management makes the following specific comments on various sections of the Supplemental Notice of Proposed Rulemaking.

Air Quality Assessment of Statewide Emissions Budgets

Indiana has four counties currently designated nonattainment for the one hour ozone standard, and seven areas (including 21 of Indiana's 92 counties) across the state (including those four counties) which, based on monitoring data from recent years, have air quality that exceeds the new eight hour standard. IDEM has evaluated the air quality impacts of the statewide NOx budgets proposed by USEPA, as well as other levels of control, in an effort to determine what level of NOx control would help Indiana's areas meet the ozone standard and also reduce any significant impact Indiana sources have on other states in the region.

Indiana has participated in the modeling studies conducted through the Lake Michigan Air Directors Consortium (LADCO). As a member state of LADCO, Indiana has joined in technical comments detailing the results of those studies, and incorporates those comments dated June 25, 1998, herein. In addition, we have worked with other states and interested parties within our state and have examined numerous analyses of emissions from Indiana and other states. IDEM believes that the results of these studies lead to similar conclusions and are summarized as follows:

(1) Reductions of NOx emissions in Indiana reduce ozone levels in Indiana and some adjacent states. It is clear from the modeling that Indiana emissions do impact our neighboring states. However, those impacts are relatively limited in geographic scope. Moreover, modeling clearly shows that the greatest decreases in ozone levels occur relatively close to where the NOx reductions occur. In other words, NOx reductions at Indiana sources have the greatest impact on air quality in Indiana and our adjacent states. Small ozone benefits occur further away than these areas, but the benefits decrease quickly with distance. Reductions in NOx emissions from Indiana sources will be necessary to meet the air quality standards in Indiana and adjacent areas, but reductions in Indiana will not significantly assist areas further downwind attain the standard.

The attached charts from the LADCO modeling (see Exhibit 1) compare the benefits resulting from NOx reductions at the level of USEPA's SIP call applied in the Lake Michigan region to those from Clean Air Act mandated controls only. Ozone decreases from the SIP call reductions **within Indiana** exceed 20 parts per billion on some days of the June and July 1991 high ozone episodes. No decreases greater than 2 parts per billion extend beyond southern Michigan and central Ohio. Two other studies, the "Indiana Electric Association

Study" and the "Tri-State Subregional Modeling and Analysis Study," which examine the July 1991 and July 1995 high ozone episodes, also conclude that SIP call level reductions at Indiana sources produce significant local reductions, but benefits of 2 parts per billion extend no further away from Indiana than Pittsburgh.

(2) NO_x reductions in adjacent states will be necessary for certain areas in Indiana to achieve the air quality standards. Some parts of Indiana, especially in the southwest, are significantly affected by emissions from states further to the south and west. Modeling from LADCO and others shows that NO_x reductions from sources in adjacent states will be necessary in addition to local VOC and/or NO_x reductions for these areas to have clean air.

Exhibits 1 and 2 illustrate the need for these additional NO_x reductions. These model results compare ozone benefits from reductions only in the LADCO states (Exhibit 1) and throughout the Grid M states (Exhibit 2). Widespread benefits exceeding 30 parts per billion in central and southern Indiana result from reductions in the Grid M states. The difference in magnitude and geographic extent of Grid M reductions is obvious. Several other studies, summarized in "Review of the EPA Ozone Transport SIP Call and Recent Post-OTAG Modeling and Analysis Studies," performed by other states and associations support this conclusion.

(3) The vast majority of the air quality benefit can be achieved at levels of reductions less than those proposed in the SIP call. Additional reductions may be needed in some areas, but the appropriate levels of any additional reductions should be determined in the State Implementation Plans to be developed by states to address the eight-hour ozone air quality standard. Exhibit 3 shows differences in the progressive application of NO_x reductions within the Grid M states. Beginning with Clean Air Act mandated controls, LADCO stepped up the level of NO_x point source controls from 0.35 lbs/mmBtu to 0.25 lbs/mmBtu to 0.20 lbs/mmBtu to 0.15 lbs/mmBtu (the SIP call level). Controls on utilities up to 0.25 lbs/mmBtu (and comparable controls for large and medium non-utility sources) produce significant ozone benefits and appear to result in attainment in many of the current (one-hour) nonattainment areas. The increment of reduction from 0.25 to 0.15 lbs/mmBtu has limited additional benefit, largely because the tonnage reduction in the NO_x inventory from the added control is relatively small. Exhibit 3 and the LADCO comments support the 65% NO_x reductions contained in Indiana's proposed approach. Further work as we prepare for the eight-hour State Implementation Plans will allow us to determine the extent of any additional NO_x reductions needed from these sectors.

(4) Some areas of Indiana do not appear to meet the ozone standard through any of the NO_x reduction strategies. Particularly with respect to the eight hour standard, the available air quality modeling does not demonstrate attainment, even at the SIP call level controls, throughout the SIP call region. The LADCO modeling shown in Exhibit 4 shows remaining non-attainment areas in Indiana and throughout the Grid M domain. These areas will require further analysis to determine what types and levels of control will be necessary. The states should work using more complete air quality analyses, cost information and public

input to determine the remaining steps to solve the eight-hour ozone standard.

(5) In some parts of Indiana (and other states), reductions in NO_x may increase ozone disbenefit. For Indiana, this phenomenon occurs primarily in the northwest and southern portions of the state. While NO_x reductions generally result in lower ozone concentrations, modeling analyses indicate that in certain areas, NO_x reductions may result in increased ozone concentrations. Ozone increases occur throughout the modeled episodes, though most often during the early days of the episode, when ozone levels tend to be lower. However, the ozone increases also tend to occur in areas of the most dense population. Exhibit 5 illustrates this for two episode days. Further study is necessary to understand better through modeling and monitoring how NO_x disbenefits affect ozone levels in both magnitude and geographic coverage on high concentration days. Further study will help determine if selective application of controls in some areas may be appropriate to avoid exacerbation of local ozone concentrations in order to achieve benefits further downwind. States should be allowed to fashion rules which do not require NO_x controls where they may be counterproductive to preventing health standard violations.

Indiana's Emissions Inventory

In its comments on the November 7, 1997, Notice of Proposed Rulemaking, Indiana made extensive, specific comments about the emissions inventory USEPA used to calculate the budget for Indiana sources. USEPA did not address those comments in the Supplemental Notice, therefore Indiana incorporates them herein. Indiana also makes the following additional or specific comments:

(1) Indiana agrees with the 30% growth factor USEPA assumed for Indiana utilities. Based on the information we have received from the utilities themselves, as well as the Indiana Utility Regulatory Commission, Indiana agrees generally with USEPA's growth assumption, though we note that pinpointing growth on a state by state basis is an inexact science at best, especially with the likelihood of deregulation. We believe that the growth assumptions should be revisited every three to five years, and adjusted if necessary.

(2) USEPA should include provisions for updating the budget based upon new emission factors or other information. If USEPA intends to use the base inventory to assure compliance with the emission budget, then provisions should be made for opportunities to correct or update the base inventory. States have discovered, as they have implemented the first two major planning elements of the 1990 Clean Air Act (the 15% and 9% VOC reduction plans), that even a well compiled base inventory can quickly become out of date. One reason is that methodologies for estimating emissions are continually improving. Previously unidentified or mischaracterized sources are discovered, resulting in sometimes substantial errors in the initial base inventory. These corrections, if made only to the current inventory and not the base, mean that true measures of progress cannot be made.

To avoid this difficulty, USEPA should include procedures for states to update the base inventory and budget based upon improved methodologies, changes to emission factors,

discovered errors, and in other appropriate circumstances.

(3) USEPA should calculate states' utility budgets based on heat input, not total electricity generation. USEPA has requested comment on whether it should base the utility sector emission inventories on heat input, as proposed or, alternatively, on a state's total electricity generation. The latter approach would result in increasing the NOx budget for states with utilities that produce electricity without producing NOx (through nuclear generation, for example). This approach would either lead to an overall increase in the allowable NOx emissions (i.e. more allowed air pollution) or unfairly penalize states that do not have nuclear units.

(4) The list of utility sources and large and medium non-utility sources in the Supplemental Notice is incorrect. The Supplemental Notice provides further explanation of the emissions inventory USEPA used to calculate Indiana's emission budget in its "Development of Modeling Inventory and Budgets for the Ozone Transport SIP Call." USEPA did not use the data Indiana submitted in response to the November 7, 1997 Proposed Notice in its calculation. Therefore, some Indiana sources are still categorized incorrectly or incorrect emissions are included. To the extent that USEPA based modeling assumptions on this incorrect information, those are also inaccurate. Please refer to Indiana's previous comments, dated March 9, 1998, which are incorporated herein by reference, for the correct data.

Approvability Criteria

USEPA proposes to issue a Federal Implementation Plan (FIP) at the same time that State Implementation Plans are due, in the fall of 1998. Indiana believes that this proposed timetable for FIP issuance is inappropriate and contrary to the Clean Air Act. The Act gives to states the primary responsibility for developing and implementing clean air programs for their citizens with federal action as a last resort, when even the imposition of sanctions has failed to compel state action. For USEPA to say that on the one hand it is up to states to design their own control programs, but on the other that they have only twelve months to do it and that USEPA will be poised to implement a FIP the minute a state is late is not consistent with the principles of the Clean Air Act and presumes that states will not do the right thing to improve air quality. Indiana is also concerned about the short timeframe USEPA will have under the settlement of the Section 126 litigation to approve state submittals. If USEPA does not approve timely submitted state plans by November 1999, does that mean that the FIP will go into effect for that state?

In the Supplemental Notice, USEPA proposes several additional criteria it will use to determine whether state submittals are approvable. Indiana appreciates USEPA's efforts to clarify the elements that need to be included in SIP submittals. We have the following specific comments:

(1) States should have as much flexibility as possible to determine the appropriate strategies to include in their plans. USEPA proposes that states' regulatory requirements for sources controlling NOx be expressed as either a mass emission limit, an emission rate,

or a specific control technology or measure. Indiana agrees that it may be difficult for some sources to meet a mass emission limit due to limited emissions control options and quantifying techniques. However, Indiana believes that given the substantial reductions called for, states should have more flexibility to decide what strategies are best for their state. It is unlikely that any state will be able to achieve its proposed NOx budget without implementing some or all of the measures assumed by USEPA.

(2) USEPA should not assume that states will not proceed in good faith to implement measures intended to reduce interstate transport. USEPA has indicated that one reason for being so prescriptive in the Supplemental Notice is that it assumes states will be less serious about implementing emission controls if the air quality improvement is focused on a neighboring state. Indiana objects to this rationale as patronizing and unfounded. States have proceeded in good faith to implement many control programs, many of which have been perceived as burdensome or unpopular. There is no reason to assume that states will be unwilling to implement necessary NOx controls.

Emission Reporting Requirements

The Supplemental Notice contains additional direction from USEPA on what emissions reporting requirements will be necessary to demonstrate progress and, ultimately, compliance with the NOx budget. Indiana does not agree that it is appropriate to establish statewide NOx budgets covering all emission categories at this time. Instead, the transport of ozone on a regional basis can be effectively dealt with at this time through additional NOx reductions on the electric utility and large industrial boiler categories. Attempting to establish statewide budgets for all NOx sources, particularly when the available information is not sufficient to accurately estimate emissions is not constructive.

We agree that there needs to be a way of tracking ongoing progress and that regular emission inventory updates are an appropriate way of developing that information. However, these requirements should be established with state input in guidance for the attainment of the new ozone standard.

Although we do not agree with the inclusion of these reporting requirements as part of this action, we do offer the following comments on the specifics of USEPA's proposal:

(1) Additional reporting requirements should be minimized for both sources and state and local governments and should, to the greatest extent possible, be consistent with current requirements. The emission reporting requirement proposed by USEPA will be an additional burden on states, local government and sources. Indiana, like other states, requires industrial emissions to be reported on an annual basis, but no state has been required to submit statewide estimates of mobile or area sources on an annual basis. Additional resources will be required for state and local governments to calculate mobile and area sources under the proposed reporting cycle, and as noted below, this cycle is not consistent with the way good information is developed for these two categories. Indiana agrees that comprehensive

inventory updates from states on a triennial cycle makes sense.

Indiana strongly recommends that USEPA seek ways of reducing this burden. For example, the mobile source category in many metropolitan areas will have to be estimated under transportation conformity provisions. Efforts should be made to tie this in with the triennial reporting. USEPA has proposed that emissions information could be directly submitted to USEPA. Indiana recommends that sources report their emissions to the state air agency, so that appropriate quality assurance can be done prior to submission to USEPA.

(2) The timeframes proposed for reporting are too short and will not result in accurate emissions information. USEPA has proposed that states submit a complete inventory update for all sources subject to control under the states' NO_x control program (other than federal NO_x control programs) on an annual basis. USEPA has also suggested that six months may even be sufficient time. Even for the point sources, that currently must report their emissions annually, this schedule is unrealistic. Previous draft rule language proposed an eighteen month timeframe, which Indiana believes is much more realistic, and will lead to more accurate inventory updates.

For example, some categories of an emissions inventory are based upon available statistical data, such as population or employment data. These data are compiled from a number of sources by several federal agencies and generally made available for use by states late in the year following the reporting year. As a specific example, if one is calculating an area source based upon employment levels at Indiana wood coating facilities, one must either use a two year old report or wait until late in the year for more accurate information. The release dates of this type of data do not coincide well with the proposed emission reporting requirements, especially if the reporting time is limited to as little as six months.

(3) USEPA should clarify whether inventory updates are formal SIP revisions. USEPA has stated that the emission inventory would be used to determine if the states were meeting their budgeted emissions. If USEPA determines that a state is not meeting its budget, appropriate action would be taken. The SNPR does not specify, however, whether the emissions reports will be actual revisions to a state SIP. If so, certain formalities must be followed for proper submittal. Indiana does not object to following those procedures, which for the most part involve an opportunity for public comment. Indiana generally provides such opportunities whether or not it is required as part of a SIP submittal. Indiana does urge USEPA to clarify this for states, however, to eliminate confusion and the possibility of inadequate filings.

Emissions Trading

Indiana supports an emissions trading program for point sources subject to NO_x controls. Indiana believes that to be effective in holding down compliance costs, the trading program should be available early in the implementation schedule and should be as simple as possible. Indiana has

reviewed USEPA's model trading rule in the short time allowed for and has some specific comments detailed below. States will clearly need leadership from USEPA to implement a workable multi-state trading program in the timeframe necessary to provide real benefit to sources.

(1) Trading should be allowed across utility systems and across state lines but should ensure that air quality benefits occur where they are needed and avoid adverse air quality impacts. Indiana believes that interstate trading can be appropriate, but some bounds must be drawn to assure that it actually results in air quality benefits where they are needed. Indiana has already indicated its belief that pollution is transported within a relatively confined area, and believes that trading would be most effective within a subregion that includes Indiana and its surrounding states. A subregional trading area would eliminate the need to develop "exchange ratios" for NO_x emissions, which will simplify transactions. The trading program should provide for states to negate a trade with a non-adjacent state if it determines that the trade will undermine the state's plan to meet clean air standards.

(2) Large industrial sources should be included in the trading program. The more participating in a trading program, and the more diversity among types of sources, the more effective the trading program will be. At this time, Indiana believes that utility sources and other large industrial boiler NO_x sources should be included in a NO_x trading program. Including mobile and area sources has some appeal in terms of diversity, but poses other complications that can best be addressed after a trading program has been established.

(3) The trading program should be available to sources early in the implementation schedule. Indiana believes that the ability to trade will be most helpful to sources early in the implementation process. A banking provision will also provide incentives for sources to control earlier than would otherwise be required.

(4) The trading program should provide for periodic updating of allowances. USEPA has offered several approaches to how allowances should be allocated. These include a single allowance allocation process to a periodic (e.g., annual) update of allowances. Indiana recommends a middle approach, where allowances are allocated for a five year period. A one-time initial allocation provides a longer planning horizon, including possible incentives for sources to improve a budget unit's efficiency, and would be administratively simpler. However, it will make it more difficult for new sources to obtain allowances, unless there is a sufficiently large "pool." A periodic allowance updating system would accommodate variations in a budget unit's operation but will complicate planning for the future. A five year update strikes a balance between these two approaches.

(5) States should retain the responsibility and flexibility to allocate allowances to their sources. Indiana agrees with USEPA's recommendation that states retain the authority and flexibility to determine how allowances will be allocated within their borders, with one option being adoption of USEPA's recommended approach. Indiana supports an allocation system based on heat input, as accurate protocols, data and procedures to allocate allowances on this basis already exist. Indiana urges USEPA to establish basic procedures for allowance

allocation to provide some level of compatibility among states.

(6) States should have the authority to establish the details of a set-aside program to accommodate new sources. Indiana definitely agrees that a set-aside of allowances to accommodate new or expanding sources is a critical element. We also believe that each state must have the flexibility to design this set-aside in the way that best fits its specific needs.

(7) USEPA and the states should continue to work to find ways to incorporate energy efficiency projects into trading programs. Indiana does not feel that the policy issues relative to including energy efficiency programs in emissions trading have been sufficiently discussed and resolved at this time.